STRATUS CONSULTING

Natural Resource Damages Associated with Aesthetic and Ecosystem Injuries to Oklahoma's Illinois River System and Tenkiller Lake

Expert Report for State of Oklahoma, in Case No. 05-CV-0329-GKF-SAJ, State of Oklahoma v. Tyson Foods, et al. (In the United States District Court for the Northern District of Oklahoma)

Volume I

Natural Resource Damages Associated with Aesthetic and Ecosystem Injuries to Oklahoma's Illinois River System and Tenkiller Lake

Expert Report for State of Oklahoma, in
Case No. 05-CV-0329-GKF-SAJ,
State of Oklahoma v. Tyson Foods, et al.
(In the United States District Court for the
Northern District of Oklahoma)

Volume I

January 5, 2009

Natural Resource Damages Associated with Aesthetic and Ecosystem Injuries to Oklahoma's Illinois River System and Tenkiller Lake

Volume I

David J. Chapman

Richard C. Bishop

W. Michael Hanemann

Barbara J. Kanninen

Jon A. Krosnick

Edward R. Morey

Roger Tourangeau

1.5   Why Our Study Is an Appropriate Measure of Natural Resource Damages

The Team was assigned to estimate damages resulting from injuries to the aesthetic qualities and the ecosystem of the Illinois River system and Tenkiller Lake due to excessive phosphorus. Poultry waste spread on agricultural land in the past will continue to produce ongoing injuries and lost services into the future. Damages were calculated as the dollar measure of these losses, as measured by what individuals would be willing to pay for a program to accelerate reduction in future natural resource injuries to public trust resources in the Illinois River system and Tenkiller Lake. Specifically, the CV study developed a conservative measure of these damages, by estimating the mean willingness-to-pay (WTP) for a program that would return the flow of services from the Illinois River system and Tenkiller Lake to their 1960 condition 40 years sooner than without the program.

7.2   Aggregating the Estimate of Household Damages to the Public of the State of Oklahoma

As stated above, a conservative estimate of the average WTP value placed by a household in the study area on the injuries resulting from continuing pollution of the Illinois River system and Tenkiller Lake is $184.55 per household. There are 1,352,878 households in our study area (the 63 counties in the sampling plan).[3] Accordingly, a conservative estimate of the total value placed on these injuries by the public of Oklahoma in these counties is $249,673,635 (1,352,878 multiplied by $184.55). The 95% confidence interval for the aggregate estimate is $224,198,942 to $275,148,328.

---

3. This figure is based on the most recent estimates available from the American Community Survey (ACS), which are for the year 2007. The relevant data are available through American Factfinder (http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program = ACS&_submenuId = &_lang = en&_ts=), the Census Bureau's on-line program for disseminating ACS and other data. The Census Bureau does not publish ACS estimates for areas or subgroups with fewer than 20,000 people. Thus, the figure of 1,352,878 households is the ACS estimate of the number of households in the state of Oklahoma, adjusted downward to compensate for the exclusion of the 14 western counties from the sample. Census figures indicate that these counties include 3.4% of the housing *units* in the state; the adjustment assumed that the excluded counties included the same proportion of households (or *occupied* housing units).